IN THE CLAIMS

No claims have been amended with this Response.

1. (Previously Presented) A method for detecting an operating state or a change in an operating state of a DC motor having connecting terminals for the application of a supply voltage, with a voltage present between the connecting terminals being an analog signal indicating the operating state of the motor the method comprising:

sampling the analog signal or a signal dependent on the analog signal for providing a sampling signal;

generating a transformation signal representing a spectral distribution from a number of signal values of the sampling signal; and

comparing the transformation signal with at least one reference signal representing a spectral distribution.

2. (Original) The method of claim 1, wherein the at least one reference signal has been generated from an analog reference signal representing an operating state to be detected.

3. (Original) The method of claim 1, wherein the at least one reference signal is a transformation signal generated on the basis of previous samples.

4. (Original) The method of claim 1, wherein the transformation signal and the at least one reference signal are discrete Fourier transforms.

5. (Original) The method of claim 4, wherein the discrete Fourier transforms are generated by means of a fast Fourier transformation.

6. (Original) The method of claim 1, wherein the sampling signal is band-limited before the transformation signal is generated.

7. (Original) The method of claim 1, wherein the transformation signal is compared with a plurality of reference signals.

8. (Original) The method of claim 1, wherein the samples used to form the transformation signal are subjected to a weighting before the formation of the transformation signal and wherein weighting at least two of the samples are weighted differently.

9. (Original) The method of claim 5, wherein the magnitudes of the discrete Fourier transforms of the sampling signal and of the at least one reference signal are compared with one another.

10. (Original) The method of claim 9, wherein a state represented by the at least one reference signal is assumed to be present if the sum of the magnitudes of the differences of the individual spectral components of the discrete Fourier transforms of the sampling signal and of the at least one reference signal is less than a reference value.

11. (Original) The method of claim 10, wherein the phases of the Fourier transforms of the sampling signal and of the reference signal are also compared with one another.

12. (Original) The method according to claim 1, wherein a sampling frequency is set depending on a determined period duration of the analog signal such that the number of samples determined per period of the signal corresponds to a predetermined number.

13. (Original) The method of claim 12, wherein the period duration is determined by a comparison of the analog signal with a predetermined threshold value.

14. (Original) The method of claim 13, wherein the threshold value is generated by an averaging of the analog signal.

15. (Cancelled)

16. (Previously Presented) The method of claim 14, wherein the voltage present between the connecting terminals is subjected to a low-pass filtering and the transformation signal is formed from the signal resulting from the low-pass filtering.

17. (Original) The method of claim 14, wherein a voltage is determined at both connecting terminals with respect to a reference-ground potential and the voltages determined are compared with one another in order to determine a direction of rotation of the motor.

18. (Original) The method of claim 17, wherein the rotational speed of the motor is determined directly from the voltage present at the connecting terminals, and in which the sampling frequency is set in a manner dependent on the rotational speed determined.

19. (Original) The method of claim 1, wherein 128 samples of the sampling signal are used to form the transformation signal.

20. (Original) The method of claims 14 for determining the operating state of an occupant protection system in a motor vehicle, the analog signal being a signal provided by a sensor.

21. (Original) The method of claim 20, wherein the sensor is a pressure sensor.

22. (Previously Presented) An apparatus for detecting an operating state or for detecting a change in the operating state of a DC motor having connecting terminals for the application of a supply voltage, with a voltage present between the connecting terminals being an analog signal indicating the operating state of the motor, the apparatus comprising:

a sampling device for sampling the analog signal and providing a sampling signal;

a transformation unit to which the sampling signal is fed and which provides a transformation signal for a number of samples of the sampling signal; and

a comparator arrangement to which the transformation signal is fed and which compares the transformation signal with at least one reference transformation signal representing a spectral distribution and which provides a state signal.

23. (Original) The apparatus of claim 22, wherein the at least one reference signal has been generated from an analog reference signal representing an operating state to be detected.

24. (Original) The apparatus of claim 23, wherein the at least one reference signal is a transformation signal generated on the basis of previous samples.

25. (Cancelled)

26. (Previously Presented) The drive circuit of claim 24, which has a direction of rotation detection unit, which is connected to the connecting terminals and which determines the potentials at the two terminals with respect to a reference-ground potential and, on the basis of a comparison of the potentials, provides a signal indicating the direction of rotation.